



CHEMISTRY NMDCAT

(UNIT-15)

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03418729745(WhatsApp Groups)

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TOPICS:-

✓ **CARBOXYLIC ACIDS**

✓ **MACROMOLECULES**

- Q. 1** The dilute solution of _____ is called vinegar
- Acetic acid
 - Formic acid
 - Benzoic acid
 - Oxalic acid
- Q. 2** Ammonia on reaction with acetic acid followed by heating gives
- Ethyl amine
 - Dimethyl amine
 - Acetamide
 - A ketone
- Q. 3** Propane nitrile undergoes acid –hydrolysis to give
- Pentanoic acid
 - Acetic acid
 - Propanoic acid
 - Butanoic acid
- Q. 4** Carboxylic acid on reaction with LiAlH_4 are reduced to _____
- Alcohol
 - Ketone
 - Alkane
 - Ester
- Q. 5** Reaction of CH_3COOH with PCl_5 is an example of _____ reaction
- Electrophilic substitution
 - Electrophilic addition
 - Nucleophilic substitution
 - Nucleophilic addition
- Q. 6** _____ cannot be prepared directly from acetic acid
- Acetamide
 - Acetyl chloride
 - Acetic anhydride
 - Ethyl acetate
- Q. 7** $\text{C}_2\text{H}_5\text{OH} + \text{CH}_3\text{COOH} \rightleftharpoons \text{CH}_3\text{COOC}_2\text{H}_5 + \text{H}_2\text{O}$
Which of the following catalyst is used in the above reaction
- Conc. H_2SO_4
 - Pt
 - LiAlH_4
 - Ni
- Q. 8** Which of the following compounds will react with NaOH(aq) , Na_2CO_3 and PCl_5 ?
- CH_3CHO
 - $\text{CH}_3\text{CH}_2\text{OH}$
 - $\text{C}_6\text{H}_5\text{OH}$
 - CH_3COOH
- Q. 9** Compounds having $-\text{C} \equiv \text{N}$ group are called
- Amides
 - Amines
 - Nitriles
 - Nitrites
- Q. 10** Acetamide is prepared by
- Heating ammonium acetate
 - Heating methyl cyanide
 - Heating ethyl acetate
 - The hydrolysis of ethyl cyanide
- Q. 11** An aqueous solution of an organic compound reacts with sodium carbonate to produce carbon dioxide gas. Which one of the following could be the organic compound?
- $\text{CH}_2=\text{CH}-\text{CH}_3$
 - CH_3-CHO
 - $\text{CH}_3\text{COOC}_2\text{H}_5$
 - $\text{CH}_3-\text{CH}_2-\text{COOH}$



Q. 12 A food chemist wants to create the odour of pineapple for a product. An ester with this odour has the formula $C_3H_7CO_2C_2H_5$. The reactants are

- a. C_2H_5Cl and $C_3H_7CO_2H$
- b. CH_3OH and $C_3H_7CO_2H$
- c. C_2H_5OH and $C_3H_7CO_2H$
- d. C_3H_7OH and C_2H_5COCl



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- Q. 13** The reaction of carboxylic acids with alcohols in presence of conc. H_2SO_4 is called
- Esterification
 - Neutralization
 - Hydrolysis
 - Acylation
- Q. 14** Which one of the following given the correct order of acid strength (strongest first) for ethanoic acid, chloroethanoic acid and phenol?
- CH_3CO_2H C_6H_5OH CH_2ClCO_2H
 - CH_2ClCO_2H C_6H_5OH CH_3CO_2H
 - CH_3CO_2H CH_2ClCO_2H C_6H_5OH
 - CH_2ClCO_2H CH_3CO_2H C_6H_5OH
- Q. 15** Acetic acid can be produced by the reaction of "A" with CH_3Cl followed by acid hydrolysis. The "A" is
- $ClCN$
 - KCN
 - KCl
 - NH_3
- Q. 16** 2-Butene heated with alkaline or acidic $KMnO_4$ forms _____
- Butanoic acid
 - Propanoic acid
 - Oxalic acid
 - Ethanoic acid
- Q. 17** Carboxylic acid reacts with sodium hydroxide to form salt, belong to _____ reaction
- Nucleophilic substitution
 - Nucleophilic addition
 - Electrophilic substitution
 - Free radical substitution
- Q. 18** Propanoic acid liberates CO_2 from Na_2CO_3 . The carbon of CO_2 comes from
- Methyl group
 - Carboxyl group
 - Methylene group
 - Carbonate ion
- Q. 19** Organic compounds A and B react together to form organic compound C. What type of compounds can A, B and C be

	A	B	C
a.	Alcohol	Ester	Acid
b.	Acid	Ester	Alcohol
c.	Ester	Alcohol	Acid
d.	Alcohol	Acid	Ester

- Q. 20** Which of the following is not a fatty acid
- Palmitic acid
 - Stearic acid
 - Butanoic acid
 - Oxalic acid
- Q. 21** The reaction of carboxylic acid in which hydrogen atom of carboxyl group is involved
- Reaction with PCl_5
 - Reaction with C_2H_5OH
 - Reaction with NH_3
 - Reaction with Na metal
- Q. 22** Valeric acid is obtained from a herb valerian, its IUPAC name is
- Propionic acid
 - Butyric acid
 - Pentanoic acid
 - Caproic acid
- Q. 23** The pure acetic acid freezes to an ice like solid at
- 17 K
 - 273K
 - 298K
 - 290K
- Q. 24** Which of the following is strongest acid
- Butanoic acid
 - Methanoic acid
 - Ethanoic acid
 - Propanoic acid



- Q. 25** Which of the following is the weakest acid?
- Bromoacetic acid
 - Chloroacetic acid
 - Acetic acid
 - Fluoroacetic acid
- Q. 26** Select the carboxylic acid which has different smell from others
- Formic acid
 - Acetic acid
 - Butyric acid
 - Propionic acid
- Q. 27** The correct order of decreasing acid strength of A=trichloroacetic acid, B = dichloroacetic acid, C = chloroacetic acid and D = acetic acid is
- $A > B > C > D$
 - $A > C > B > D$
 - $B > A > C > D$
 - $B > D > C > A$
- Q. 28** Ethane nitrile on boiling with mineral acids or alkalies yields corresponding
- Ethanol
 - Ethanal
 - Ethyl amine
 - Ethanoic acid
- Q. 29** How many grams of sodium metal are used with ethanoic acid to form one mole of H_2 gas
- 23
 - 46
 - 24
 - 12
- Q. 30** Propanoic acid on reduction with HI and red phosphorus gives
- Ethanal
 - Propane
 - Ethane
 - Propene
- Q. 31** The alkyl group present in an ester having raspberry flavour is
- Amyl
 - Octyl
 - Isobutyl
 - Ethyl
- Q. 32** The reducing agent for reduction of an ester is
- $NaBH_4$
 - $LiAlH_4$
 - H_2S
 - H_2SO_4
- Q. 33** The functional group of alkanolic anhydride is
- $$\begin{array}{c} O & O \\ || & || \\ -C-O-C- \end{array}$$
 - $$\begin{array}{c} O & O \\ || & || \\ -C-C- \end{array}$$
 - $$\begin{array}{c} O & O \\ || & || \\ -C-C-O \end{array}$$
 - $$\begin{array}{c} O \\ || \\ -C-O-C- \\ | \end{array}$$
- Q. 34** The organic acid which has almost same boiling point as water as at standard pressure is
- $HCOOH$
 - CH_3OOH
 - CH_3CH_2COOH
 - $CH_3CH_2CH_2COOH$
- Q. 35** On complete reduction of $CH_3-\underline{COOH}$. The underlined group after reduction changes into
- $-CH_2-OH$
 - $-OH$
 - $-CH_3$
 - $-CHO$
- Q. 36** Acetic acid is miscible with all proportions in
- Water
 - Alcohol
 - Ether
 - All of these



- Q. 37** The number of carbon atoms involved in a dimer molecule of acetic acid are
a. 2
b. 3
c. 4
d. 5
- Q. 38**

$$\text{CH}_3 - \overset{\text{O}}{\parallel} \text{C} - \text{ONa} + \text{HCl} \longrightarrow \text{Product}$$
 The product obtained is
 a. $\text{CH}_3 - \overset{\text{O}}{\parallel} \text{C} - \text{Cl}$
 b. $\text{CH}_3 - \overset{\text{O}}{\parallel} \text{C} - \text{OH}$
 c. $\text{CH}_3 - \overset{\text{O}}{\parallel} \text{C} - \text{H}$
 d. CH_4
- Q. 39** Which enzyme is used to convert glucose into ethanol
a. Zymase
b. Invertase
c. Diastase
d. Maltase
- Q. 40** Legumin and collagen proteins are present in the connective tissues throughout the body. They are categorized under
a. Conjugated proteins
b. Derived proteins
c. Simple proteins
d. Compound proteins
- Q. 41** The simple sequence of the amino acids combined in a peptide chain is referred to as the _____
a. Secondary structure
b. Primary structure
c. Tertiary structure
d. Quaternary structure
- Q. 42** Haemoglobin is a
a. Transport protein
b. Building protein
c. Genetic protein
d. Structural protein
- Q. 43** Collagen is a fibrous protein present most abundantly in
a. Tendons
b. Arteries
c. Hair
d. Nail
- Q. 44** The enzyme useful for treatment of blood cancer in children is
a. Phospho-transferase
b. Carbonic anhydrase
c. L-asparaginase
d. LDH-1
- Q. 45** The substance which reduces the enzyme activity
a. Apoenzyme
b. Inhibitor
c. Activator
d. Co-enzyme
- Q. 46** Which of the following enzyme has Fe^{+2} ions as co-factor
a. Chrome oxidase
b. Phosphatase
c. Carbonic anhydrase
d. Glucose -6-phosphatase
- Q. 47** Propanedioic acid is the IUPAC name of
a. Malonic acid
b. Maleic acid
c. Oxalic acid
d. Tartaric acid
- Q. 48** The rate of an enzymatic reaction is directly proportional to the
a. $[\text{Enzyme}]^2$
b. $[\text{Enzyme}]^3$
c. $[\text{Enzyme}]^{1/2}$
d. $[\sqrt{[\text{Enzyme}]}]$
- Q. 49** Which of the following statement is correct about enzymes?
a. They are specific in their action
b. They are protein in nature
c. Most enzymatic reactions are reversible
d. All of these
- Q. 50** Which of the following derivative of carboxylic acid is more reactive
a. Acetamide
b. Ethyl acetate
c. Acetic anhydride
d. Acetyl chloride



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Chem T-15

Chem # unit (15)				
01- A	11- D	21- D	31- C	41- B
02- C	12- C	22- D	32- B	42- A
03- B	13- A	23- D	33- A	43- A
04- A	14- D	24- B	34- A	44- C
05- C	15- B	25- C	35- C	45- B
06- A	16- D	26- C	36- D	46- A
07- A	17- C	27- A	37- A	47- A
08- D	18- D	28- D	38- B	48- D
09- C	19- D	29- B	39- A	49- D
10- A	20- D	30- B	40- C	50- D

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